

DAVID E. MYSLABODSKI, Dr. Ing.
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SUMMARY: Professional seaweed chemist with over 25 years experience in worldwide sourcing, processing and utilization of marine plants. Background includes basic research and applied industrial development in the US, Norway, Israel, Mexico & Chile. Particular expertise in:

- Seaweed hydrocolloids
- Process chemistry
- Analytical techniques
- Raw materials
- Regulatory affairs
- Technical training

PROFESSIONAL EXPERIENCE: Independent Consultant (1995-2005)

Consulting to private enterprises and academia in matters related to seaplants' raw material evaluation, manufacturing technologies and end-product performance (laboratory, pilot and full industrial scale).

Ongoing projects:

- WORLDWIDE. Determination of the molecular weight distribution of carrageenans.
- MEXICO. Adding value to local seaweeds.
- CANADA. New seaweed products and processes [Pending].
- CHILE. Cultivation of seaweetables [Pending]

Past projects:

- CHILE. Value-added products alternatives for local kelp meals.
- ISRAEL. Product development for the spa markets.
- USA. Sourcing and processing of brown seaweeds as raw materials for medical use.
- ISRAEL. Design and implementation of a new Biotechnology Institute. Specification, acquisition, installation and verification of the instrumentation and training of the technical personnel.
- ISRAEL. Set up of the labs and pilot plant and training of personnel. Design of an agar and agarose processing plants. Transfer of analytical techniques for raw material & end-product evaluation.
- ISRAEL. Conversion of a seaweed farm from supplier of raw materials for agar/agarose to direct supplier of end-products to the food and well-being markets.
- ESTONIA. Modernization options for the carrageenan processing industry.
- SENEGAL. Harvesting, processing and local use of seaweed resources.
- CHILE. Evaluation of the southern seaweed resources as animal feed.
- USA. Industrial training course. Carrageenans: raw materials, manufacturing processes, properties and uses.

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FMC CORPORATION (1990-1995)

Staff Chemist, Chemical Products Group, R&D Center, Princeton, NJ (1993-1995)

Provided analytical services to worldwide production plants of the Food, Pharmaceutical, BioProducts and Polymer Additives Divisions. Developed procedures and processes to characterize food gums.

Accomplishments:

- Carried out food gums stability studies under simulated food-processing conditions.
- Established protocols for sample preparation and evaluation of carbohydrates.
- Expert consultant to operating divisions and corporate departments (Food Ingredients, Regulatory Affairs, Polymer Additives, Pharmaceutical and BioProducts Divisions) concerning carbohydrates.
- Trained scientific personnel in analytical techniques and processes for polymers.

Post-Doctoral Fellow, BioProducts Division, Rockland, ME (1990-1993)

Conducted research in the commercialization of biopolymer-based products (agarose, carrageenan and konjac), raw materials characterization, reverse engineering, analytical and testing methods, process improvement and scale-up to production.

Accomplishments:

- Implemented protocols for the evaluations of red seaweeds as raw materials.
- Assisted in the development of the first "ready-to-use" agarose product line.
- Developed manufacturing and testing techniques for several products.
- Assisted in the elaboration of a comprehensive business plan for agar manufacturing.

SINTEF, Trondheim, Norway (1984-1986)

Research Assistant

Became proficient in processing and recovering red algal biopolymers, evaluating Norwegian red seaweeds as a source of agar/agarose, installing and maintaining analytical instruments and in computer science.

Accomplishments:

- Carried out a comprehensive review regarding agar and carrageenan manufacturing.
- Developed processing techniques for the manufacturing of commercially valuable products from under-utilized resources.
- Established an extensive personal library on the raw material sources, physical and chemical properties, manufacturing technologies and analytical techniques for polysaccharides from marine and land plants.

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INSTITUTE OF OCEANOGRAPHY, University of Baja California, Mexico (1976-1978)

Research Assistant

Studied utilization of seaweed resources. Established analytical and lab-scale processing technologies for food gums.

- EDUCATION:** Doktor. Ingeniør [Ph.D.], Biotechnology Institute (Form. Norwegian Institute of Seaweed Research), **University of Trondheim**, Norway (1990). Major; Biophysical chemistry of macromolecules. Minor; chemistry & biochemistry of carbohydrates
- Technical training [Post-graduate], Microbiology Department, **McGill University**, P. Q., Canada (1983). Enzymatic methods in polysaccharide analysis.
- Technical training [Post-graduate]. Biotechnology Institute, **University of Trondheim**, Norway (1981-1983). Marine biochemistry and industrial utilization of seaweeds.
- Oceanólogo [BS], Marine Sciences College, **Baja California U.**, Ensenada, B. C., Mexico (1980). Marine sciences with emphasis on chemical oceanography.
- PROFESSIONAL MEMBERSHIPS:** Present: American Phycological Society and Maine Seaweed Council [Past President and present V. P.]. Past: International Seaweed Association, Sociedad Ficologica Mexicana, American Chemical Society, UIPAC, Institute of Food Technologists.
- LANGUAGES:** Fluent and literate in English, Spanish, Norwegian and Hebrew.

PUBLICATIONS:

Tel-Zur, N., Abbo, S., Myslabodski, D. and Mizrahi, Y. (1999). Modified CTAB procedure for DNA isolation from epiphytic cacti of the genera *Hylocereus* and *Selenicereus* (Cactaceae). *Plant Molecular Biology Reporter*. 17: 249-254

Myslabodski, D.E., Stancioff, D. and Heckert R. (1996). Effect of acid hydrolysis on the molecular weight of kappa carrageenan by GPC-LS. *Carbohydrate Polymers* (in print).

Knutsen, S.H., Myslabodski, D.E., Larsen, B. and Usov, A.I. (1994). A modified system of nomenclature for red algal galactans. *Botanica Marina* 37: 163-169.

Knutsen, S.H., Myslabodski, D.E., and Grasdalen, H. (1990). Characterization of carrageenan fractions from Norwegian *Furcellaria lumbricalis* (Huds.) Lamour. by ¹H-NMR spectroscopy. *Carbohydrate Res.* 206: 367-372.

Myslabodski, D.E. (1990). Red algal galactans: Isolation and recovery procedures - effects on structure and rheology. Doctoral Dissertation, University of Trondheim, Norway.